Popular Article

Indian Veterinary Magazine
a monthly Magazine
of the people, by the people, for the people

Vol 2 Issue 2 Feb 2026, 116-118 ISSN:3108-1398

Feeds and Feeding Management of Dromedary Camel

[1*]Vidhu Kumar, [2]Shreya Mishra, [1]Aryak Mishra, [1]Shubhani Sharma
[1]ICAR–National Dairy Research Institute, Karnal, Haryana
[2]ICAR- Indian Veterinary Research Institute, Bareilly,
*Corresponding author email- www.kumarvidhu@gmail.com

Abstract

The dromedary camel plays a crucial role in sustaining livelihoods in India's arid and semi-arid regions. Efficient feeding management is essential for improving productivity, reproductive efficiency, and overall health of camels under challenging desert conditions. This popular article discusses digestive adaptations, nutrient requirements as per ICAR-NRCC (2024), feeding systems practiced in the field, utilization of local feed resources, drought-feeding strategies, and environmental advantages of camels. Adoption of balanced feeding practices can significantly enhance camel performance and support climate-resilient livestock farming.

Keywords: Dromedary camel, desert nutrition, balanced ration, drought feeding, camel milk production

Introduction

The dromedary camel (Camelus dromedarius) is uniquely adapted to hot and dry ecosystems. In India, particularly in Rajasthan and adjoining arid regions, camels provide milk, meat, transport, and socio-economic security to pastoral communities. However, shrinking grazing lands and erratic rainfall patterns have increased the need for scientific feeding practices.

Digestive Adaptations: Nature's Engineering

Camels possess a three-compartment stomach (C1, C2, C3) with highly efficient microbial fermentation. Unlike true ruminants, they lack a typical omasum but compensate through:

- Efficient fiber digestion
- Urea recycling for microbial protein synthesis
- Tolerance to tannin-rich shrubs
- Exceptional water conservation capacity

These adaptations allow camels to utilize coarse, thorny, and low-quality vegetation effectively.

Nutrient Requirements

Based on recent feeding standards:

Category	DMI (kg/day)	CP (%)	TDN (%)
Maintenance	1.8–2.5	7	50
Growing (250–400 kg)	2.5–4.0	10–12	60–65
Lactating (~4–5 L/day)	3.5–5.0	12–14	65–70

Additional supplementation is recommended during late pregnancy, heavy work, and disease recovery.

Feeding of Camel Calves

Colostrum feeding during the first three days is critical for immunity. Creep feeding can begin at 2–3 weeks of age with rations containing:

- 16–18% crude protein
- 70–75% TDN

Early supplementation promotes rumen development and improves post-weaning growth.

Common Feed Resources in India

Green Fodders: Lucerne, berseem, cowpea, sorghum, bajra, napier grass

Dry Roughages: Wheat straw, barley straw, khejri leaves, sewan grass

Concentrates: Barley, maize, mustard cake, cottonseed cake, wheat bran

Unconventional Feeds: Prosopis pods, acacia leaves, cactus pads

Proper balancing of locally available feeds ensures cost-effective nutrition.

Feeding Systems in Practice

1. **Nomadic System:** Grazing on natural shrubs and trees.
2. **Semi-Intensive System:** Grazing combined with stall feeding.
3. **Intensive System:** Stall-fed camels on formulated rations, common in dairy units.

The choice depends on land availability, herd size, and production objectives.

Water and Mineral Requirements

Camels can tolerate up to 25–30% dehydration and rehydrate quickly without ill effects.

- Water requirement: 10–30 litres/day (higher in summer and lactation)
- Salt requirement: 30–40 g/day

Free access to clean water and mineral mixture improves digestion, fertility, and milk yield.

Feeding During Scarcity

During drought:

- Utilize hardy shrubs such as Ziziphus and Acacia
- Provide urea-molasses-mineral blocks
- Prepare silage from sorghum or pearl millet
- Use cactus pads as emergency green fodder

These strategies help maintain body condition during lean periods.

Use of Agro-Industrial By-Products

Inclusion of molasses, cottonseed cake, sugarcane bagasse, brewery waste, and fruit pulp (10–20% of ration) can reduce feeding costs while maintaining performance.

Environmental Advantage

Camels are considered climate-smart livestock. Studies indicate lower methane emission per kg of feed intake compared to cattle, making them suitable for sustainable livestock systems in fragile ecosystems.

Conclusion

Scientific feeding of camels enhances productivity, reproductive performance, and longevity. Balanced rations based on local resources, mineral supplementation, and drought preparedness are key to improving camel husbandry in India. Strengthening awareness among camel rearers will ensure that this resilient species continues to support rural livelihoods under changing climatic conditions.

References

Faraz, A., Waheed, A., Ishaq, H. M., & Mirza, R. H. (2023). Feeding strategies and production performance of dromedary camels under arid conditions. *Journal of Camel Practice and Research, 30*(1), 33–40.

Faraz, A., Waheed, A., Mirza, R. H., & Ishaq, H. M. (2022). Effect of molasses supplementation on nutrient digestibility and growth performance of dromedary camels. *Journal of Camel Practice and Research, 29*(2), 145–152.

Guerouali, A., & Laabouri, F. (2018). Enteric methane emission in dromedary camels compared with cattle under desert feeding conditions. *Journal of Camel Practice and Research, 25*(2), 201–206.

ICAR-NRCC. (2024). *Handbook on camel nutrition and feeding standards*. ICAR–National Research Centre on Camel.

Indian Council of Agricultural Research. (2024). *Ration balancing guidelines for livestock*. ICAR.

Khan, M. I., Ahmad, S., & Khan, M. S. (2022). Nutritional management of camels in arid and semi-arid regions: A review. *Animal Nutrition, 8*(3), 215–223. https://doi.org/10.1016/j.aninu.2022.01.005